

Assessment of Attitude, Knowledge and Awareness towards Oral Health and Periodontal Diseases among Medical Professionals in Hazaribag District, Jharkhand, India

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Received: July 30, 2018; **Published:** September 18, 2018

Abstract

The present study was undertaken with the aim of assessing the awareness about general oral health, etiology of periodontal diseases and also treatment modalities for the same among medical professionals in Hazaribag district, a tribal prevalent area of Jharkhand State in India. A survey was undertaken among a group of medical professionals practicing in various parts of Hazaribag district of Jharkhand state using a self-structured questionnaire to identify the general awareness, knowledge about periodontitis and the risk associated with periodontal diseases with regard to periodontal care. The data obtained through the questionnaire was analyzed, and the results were computed.

The participating medical professionals believed that oral health was an important aspect of individual's general health. The results of this survey explicitly showed that the medical professionals of the study area did have sufficient knowledge of the periodontal diseases, but there was a deficiency in their awareness about the prevailing treatment. This requires conduct of regular periodontal health awareness programme among the medical professionals for updating their knowledge about latest treatment modalities for boosting benefit of the patients.

Keywords: Oral Health; Periodontal Disease; Awareness; Medical Professionals; Jharkhand

Introduction

The relationship of oral health with systemic and life-threatening diseases is well known. One of the most prevalent oral diseases all over the globe affecting adult subjects in all age groups is the periodontal disease [1]. Factors like oral-hygiene, dietary habits, smoking, male gender, diabetes-mellitus, and also the socioeconomic conditions have been found associated with the risk of contracting the periodontal diseases [2]. However, the periodontics is still nascent and perception of it has been quite variable among the medical professionals. Even though the medical professionals are qualified in their fields, their understanding about dental diseases and the relationship of oral health with systemic diseases is meagre [3]. Still they have the potential to play a crucial role in promoting oral health in the population by encouraging dental visits.

Failure to diagnose oral health at the earliest often results in significant additional health care cost to the patient [4]. Therefore, assessing and improving the existing knowledge about the periodontal disease among the medical professionals should be beneficial to the society for maintaining good oral health in the population. Though studies have been carried out in the past among the healthcare professionals

and other subjects to assess their knowledge and attitude on periodontal diseases and availability of treatment modalities, the quantum of knowledge appears to be variable at different places involving different subjects [3-11]. Therefore, a continuous assessment of such gauging studies is required. A detailed survey of literature revealed that no such study that addresses the awareness level about periodontal diseases and their treatment modalities among the medical professionals in Hazaribag district, Jharkhand has been carried out in the past. Hence, the present study was undertaken with a view to assessing their knowledge, attitude and awareness level about the oral hygiene, etiology of periodontal diseases and awareness of available treatment modalities.

Materials and Methods

A self-structured questionnaire containing a total of thirty three questions related to oral health and periodontal diseases were used for the study (Annexure 1). It was divided into three sections namely attitude, knowledge (each containing ten questions) and awareness (13 questions) about the periodontal diseases. All the questions were close-ended. The participants in this study included a randomly selected cross-section of ninety qualified medical professionals (out of approximately 200) practicing in various parts of Hazaribag district, forty-three of which were from the government and private hospitals located at district headquarter, Hazaribag and its suburb, and the rest were from other parts of Hazaribag district. They were approached and their consent obtained for participation in the study. The qualified healthcare professionals were selected in such a way that each of the sixteen blocks of the district was represented. In order to obtain the genuine responses, the anonymity of the medical professionals was ensured. The study was carried out between September 2017 and April 2018. The data obtained through the questionnaire was analyzed, and the results were computed.

Questionnaire
<p>A. Attitude</p> <p>1. Oral health is an integral part of general health.</p> <p>a. Agree</p> <p>b. Disagree</p> <p>c. Neither agree nor disagree</p> <p>2. Certain systemic diseases can manifest in the oral cavity.</p> <p>a. Agree</p> <p>b. Disagree</p> <p>c. Neither agree nor disagree</p> <p>3. Saliva can be used in the diagnosis of oral as well as certain systemic diseases</p> <p>a. Agree</p> <p>b. Disagree</p> <p>c. Neither agree nor disagree</p> <p>4. Proper brushing of teeth and flossing will enable to prevent both dental caries and gingival diseases.</p> <p>a. Agree</p> <p>b. Disagree</p> <p>c. Neither agree nor disagree</p> <p>5. Loss of teeth during old age is a natural phenomenon. Neither the dentist nor the patient can prevent tooth loss</p> <p>a. Agree</p> <p>b. Disagree</p> <p>c. Neither agree nor disagree</p> <p>6. Oral health has an influence on the overall quality of life</p> <p>a. Agree</p> <p>b. Disagree</p> <p>c. Neither agree nor disagree</p> <p>7. Oral diseases have an implication on certain systemic diseases/conditions like cardiovascular diseases, Pregnancy, low birth weight babies etc.</p> <p>a. Agree</p> <p>b. Disagree</p> <p>c. Neither agree nor disagree</p> <p>8. Do you think periodontal diseases are preventable?</p> <p>a. Agree</p> <p>b. Disagree</p> <p>c. Neither agree nor disagree</p> <p>9. Do you refer your patients to a dentist according for evaluation?</p> <p>Yes/No</p> <p>10. Do you screen your patients for periodontal disease?</p> <p>Yes/No</p>

B. Knowledge

11. Halitosis is

Bad breath/Foul taste

12. Periodontal disease is caused by

Plaque/Hereditary/Vitamin C deficiency

13. Do you think genes play a role in periodontal diseases?

Yes/No

14. Do you think periodontal diseases are more prevalent in diabetic patients?

Yes/No

15. Can periodontal disease lead to preterm low birth weight deliveries?

Yes/No

16. Does smoking affect periodontal tissues?

Yes/No

17. Are you aware of gingival swellings which sometimes occur during pregnancy?

Yes/No

18. Have you felt that about half of all pregnant women show an increase in the severity of gingival inflammation?

Yes/No

19. Do you think gingival enlargement is caused by drugs?

Yes/ No

20. Do you think there is a need to visit the dentist when there is bleeding from the gums?

Yes/No

C. Awareness

21. Do you think that periodontal disease has been associated with suppressed levels of serum inflammatory markers?

Yes/No

22. Gingival overgrowth can be treated by

Scaling/Excision/ Drugs

23. Do you think scaling can cause the removal of enamel?

Yes/No

24. One should visit a dentist once in

2-3 months/6 months/12 months

25. Can gummy smile be treated?

Yes/No

26. If your gums are brown, do you think they can be treated?

Yes/No

27. Are you aware of the use of local drug delivery for the treatment of periodontal diseases?

Yes/No

28. Are you aware that alveolar bone can be regenerated by using bone substitutes (artificial bone)?

Yes/No

29. Can gingival recession be treated?

Yes/No

30. Are you aware that LASERS are used for the treatment of periodontal diseases?

Yes/No

31. Can the lost periodontal tissues be regenerated by platelet-rich plasma (PRP) and Platelet-rich fibrin (PRF)?

Yes/ No

32. Dental implants are Removable partial dentures/ Fixed partial dentures/Artificial tooth that is anchored in the jaw bone?

Yes/No

33. Surgical treatment for gum disease

a) Should not be done

b) Should be done if necessary

c) Is harmful to the patient

d) Should be done in the systemically compromised patient.

Annexure 1

Study Area

Hazaribag district of Jharkhand state is situated in the northeast part of North Chhotanagpur Division. It lies between longitude 84°59'50.2" E to 85° 55'31.9" E and latitude 23° 38'54.7" N to 24° 32'45.1" N. The boundary of this district consists of districts of Gaya and Koderma in the north, Giridih and Bokaro in the east, Ramgarh in the south and Chatra and Palamu in the west. Hazaribagh has a population of 1,734,495 (2011 census). The district is a compact unit with an area of 4313 sq km. It is divided into two sub-divisions: Hazaribagh and Barhi and comprises 16 blocks (Figure 1) [12].

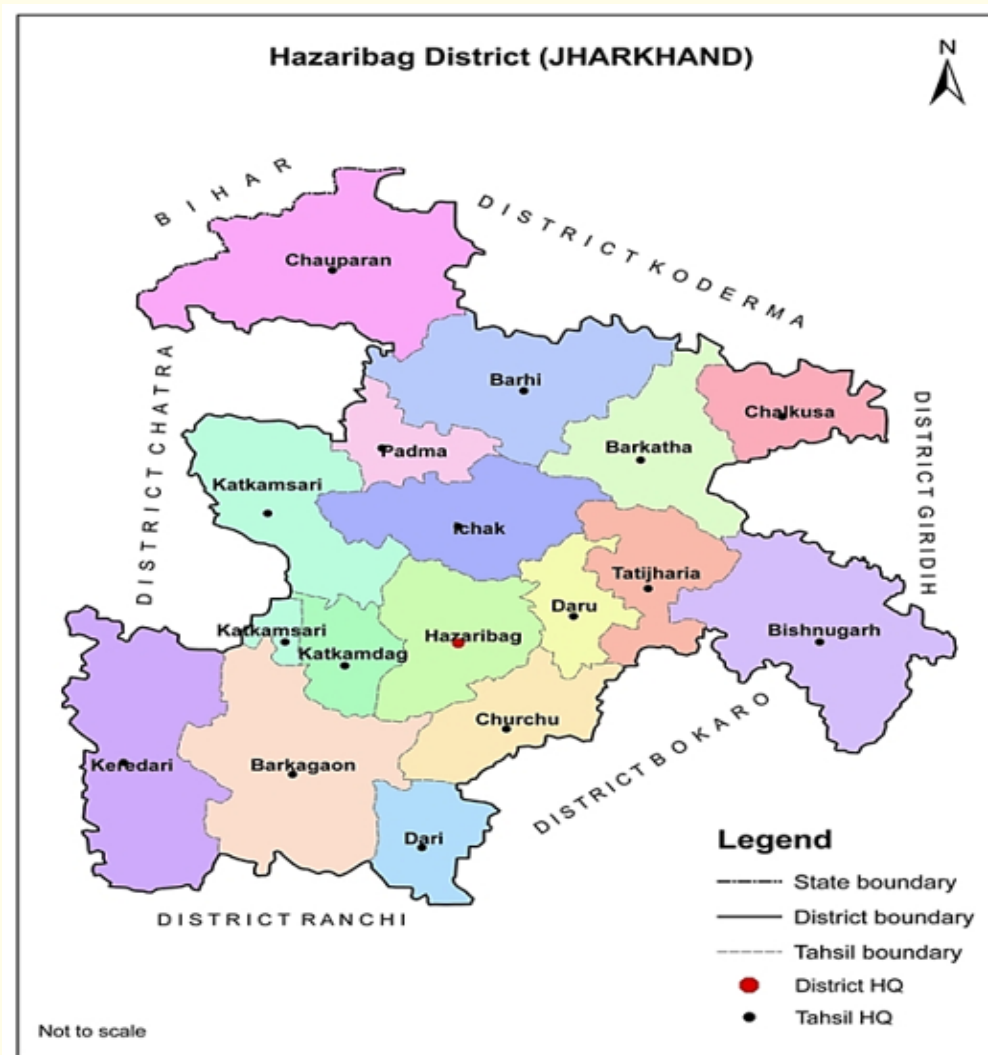


Figure 1: Administrative map of Hazaribag district.

Source: (http://www.nrddp.org/resources_data/Dld100030.jpg).

Results

All the 90 participating medical professionals completed the questionnaire. However, some of them did leave some of the questions unmarked which were considered as omitted.

The response of study subjects based on attitude towards oral health and periodontal diseases (Table 1)

All the participating medical professionals unequivocally agreed that oral health is an integral part of general health. On the oral manifestation of systemic disease, 88.88% of them agreed to it, and the rest (11.11%) neither agreed nor disagreed. A majority (91.11%) of them were of the view that saliva could be used as a diagnostic tool for oral as well as certain systemic diseases, while only 2.22% did not agree to it and the rest (6.66%) were not sure of it. 95.56% of the participants agreed that proper brushing and flossing help in maintaining good oral hygiene that is required for preventing dental caries and certain gingival diseases. 92.22% medical professionals believed that tooth loss is an age-related phenomenon that cannot be avoided by either dentist or patient while 5.55% disagreed to it and the rest 2.22% neither agreed nor disagreed to it. On whether oral health influences the overall quality of life, 98.88% of participants agreed while the rest were not sure of it. The knowledge of the medical professionals about the implication of oral diseases on certain systemic diseases/conditions such as cardiovascular and pregnancy appeared to be good (87.78%). A substantial percentage (86.67%) of participants believed that periodontal diseases are preventable. Surprisingly only 44.44% doctors referred their patients to the dentists for proper diagnosis and treatment of oral diseases. Screening of patient for their periodontal needs was not usually undertaken by the medical professionals as only 30% marked their answer to be yes.

Q. No.	Medical Professional's Response		
	Agreed (%)	Disagreed (%)	Neither Agreed nor Disagreed (%)
1	100	0	0
2	88.88	0	11
3	91.11	2.22	6.66
4	95.56	4.44	0
5	92.22	5.55	2.22
6	98.88	0	1.12
7	87.78	3.33	8.89
8	86.67	11.11	2.22
9	Yes- 44.44%	No 55.56%	
10	Yes- 30.0%	No 70.0%	

Table 1: Response of medical professionals based on attitude.

The response of study subjects based on knowledge towards oral health and periodontal diseases (Table 2)

Halitosis is bad breath, was known to 100% medical professionals. As for the cause of periodontal diseases, 71.11% answered it to be the plaque, 22.22% considered it to be familial, and 06.67% related it to vitamin C deficiency. Only 23.33% were of the opinion that genes have a role in periodontal disease. 95.56% of medical professionals considered diabetes to be a risk factor for periodontal diseases. Only 16.67% medical professionals believed that low birth weight deliveries could be the outcome of the periodontal disease. Smoking affects periodontal health was supported by 90% of the participants and 76.67% of them were aware of the pregnancy tumor. 73.33% medical professionals had noticed that in pregnant women severity of gingival inflammation had increased. 100% of the participants knew drug-induced gingival enlargement, and all of them believed that there is a need to visit a dentist for bleeding gums.

Q. No.	Medical Professional's Response		
11	Bad breath- 100%	Foul Taste- 0%	
12	Plaque- 71.11%	Hereditary- 22.22%	Vit. C Deficiency- 6.67%
13	Yes- 23.33%	No- 76.67%	
14	Yes- 91.11%	No- 8.89%	
15	Yes- 16.67%	No- 83.33%	
16	Yes- 90%	No- 10%	
17	Yes- 76.67%	No- 23.33%	
18	Yes- 73.33%	No- 26.67%	
19	Yes- 100%	No- 0%	
20	Yes- 100%	No- 0%	

Table 2: Response of medical professionals based on knowledge.

The response of study subjects based on awareness towards oral health and periodontal diseases (Table 3)

26.67% medical professionals knew that periodontal disease shows suppression of inflammatory markers. However, 12.5 % of them did not respond to the question. When asked about the treatment of gingival overgrowth, they agreed upon scaling (60%), excision (22.22%), and drugs (11.11%) while 6.67% omitted the question. 20% medical professionals were of the opinion that scaling caused the removal of enamel. The frequency of visit to the dentist should be 2 - 3 months was supported by only 22.22% medical professionals, while 54.67% and 23.33% of them considered it to be six months and 12 months respectively. 85.56% participants knew that gummy smile could be treated and 65.56% knew about depigmentation procedure if gums were brownish. 86.67% medical professionals were aware of bone grafts. Surprisingly only 15.56% medical professionals knew about the local drug delivery agents used in periodontal therapy and 73.33% of them thought that treatment is available for gingival recession. Similarly, 78.89% professionals knew about the use of LASER in periodontal diseases. When asked about the use of platelet-rich plasma (PRP)/Platelet-rich fibrin (PRF) in regenerating lost periodontal tissues, only 34.44% medical professional agreed, and 12.22% didn't respond to the question. Half (50%) of the participants did not know what dental implants mean. With implantology coming up to be recognized as a subspecialty, it is necessary that information about implants be disseminated among the professionals and public. 70% of the medical professionals agreed that surgical treatment of gums should be done, if necessary.

Q. No.	Medical Professional's Response			
21	Yes- 26.67%		No- 73.33%	
22	Scaling- 60%	Excision- 22.22%	Drugs- 11.11%	Omitted- 6.67%
23	Yes- 20%		No- 80%	
24	2-3 Months- 22.22%	6 Months- 54.44%	12 Months- 23.33%	
25	Yes- 85.565		No- 14.44%	
26	Yes- 65.56%		No- 34.44%	
27	Yes- 15.56		No- 84.44%	
28	Yes- 86.67%		No- 13.33%	
29	Yes- 73.33%		No- 26.67%	
30	Yes- 78.89%		No- 21.11%	
31	Yes-34.11%	No- 53.33%	Omitted- 12.22%	
32	Yes- 50%		No- 50%	
33	Should not be done- 5.56%	Should be done if necessary- 70%	Should be done in systemically compromised patient- 0%	Omitted- 24.44%

Table 3: Response of medical professionals based on awareness.

Discussion

Poor oral conditions may adversely affect general health, and certain medical conditions may have a negative impact on the oral health [7]. Improving periodontal knowledge could play an essential role in the prevention of periodontal diseases [8]. A team of well-trained and well-informed healthcare professionals can benefit the society by acting as a source of knowledge contributors to the community. Therefore, the medical professionals need to improve and impart oral health counseling and serve as a guide in developing positive dental attitudes. For this, they need to be well acquainted with the need for dental care and available treatments, which calls for joint advocacy between the two professions.

The results of the present study revealed that the attitude of medical professionals in Hazaribag district towards the oral health was satisfactory, a finding largely similar to other workers [3,4,9,10]. Majority of the participants agreed that oral health is an integral part of general health. Similarly they agreed on the oral manifestations of systemic diseases, and also that saliva could be used as a diagnostic tool for oral and systemic diseases. A very high percentage (86.67%) of subjects supported the view that periodontal diseases are preventable. However, more than 50% of the medical professionals did not refer their patients to the dentists for proper diagnosis and treatment of oral diseases, although all of them believed that there was a need for such visits. Our results are in conformity with those of Bhatnagar, *et al* [3].

As for the periodontal diseases, diabetes was considered to be a risk factor by more than 95% of participants. Although the overall knowledge of the participating medical professionals of Hazaribag district on various aspects of dental problems was appreciably good, their knowledge was not found satisfactory on some important aspects, such as the role of genes in periodontal diseases, inflammatory markers, local drug delivery agents used in periodontal therapy, and dental implants etc.

Conclusion

An overall knowledge of the oral and periodontal health was better in randomly selected medical professionals of Hazaribag district, Jharkhand, India. Information acquired from the present survey that was designed to assess the existing oral and periodontal knowledge of the medical professionals in Hazaribag district of Jharkhand, India should be utilized to bring change in lifestyle, to counsel and to befriend dental clinics. We also believe that the inputs of the survey will benefit the dental care providers to organize Periodontal Health Awareness Programs, structuring special clinics, and planning for joint ventures.

Acknowledgements

The authors would like to express their sincere thanks to all the medical professionals who participated in the study. Thanks are also due to Dr. Shekhar Prashant, Reader, Department of Periodontics, Hazaribag College of Dental and Dr. M. Raziuddin, Professor Emeritus, Univ. Dept. of Zoology, Vinoba Bhave University, Hazaribag, Jharkhand, India for their help and encouragement

Conflict of Interest

Nil.

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Volume 17 Issue 10 October 2018

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